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Supplemental Sampling Activities -- New Geographic Areas and Newly Activated or Permitted Water Systems Scope of Work

1.0 New Geographic Areas - Scope of Work

During the past approximately 16 years, over 450 drinking water wells have been sampled for perfluorooctanoic acid ("PFOA") in the vicinity of a manufacturing facility known as the Washington Works facility (the "Facility") located in Wood County near Parkersburg, West Virginia, ~~which The Chemours Company ("Chemours") owns and operates. (E. I du Pont de Nemours and Company ("DuPont") previously owned and operated the Facility until on or about February 1, 2015.)~~ The drinking water wells that have been sampled are located in ~~both~~ West Virginia and Ohio.

~~On May 19, 2016, the United States Environmental Protection Agency ("EPA") issued a Lifetime Health Advisory ("HA") value for PFOA of 0.07 micrograms per liter ("µg/L") or parts per billion ("ppb") based on information contained in a document titled *Health Effects Support Document for Perfluorooctanoic Acid (PFOA)* (EPA, 2016). Health advisories apply to substances that are not subject to Nnational Pprimary Ddrinking Wwater Rregulations under the Safe Drinking Water Act and serve as informal technical guidance to assist federal, state, and local officials, and managers of public or community water systems, by providing information on the health effects of and methods to sample and treat the substances in drinking water for which health advisories are established. In this case, the Lifetime HA value for PFOA issued by EPA is intended to be protective of both individuals consuming drinking water containing PFOA over a 70-year period (i.e., lifetime exposure) and pregnant women and breast and bottle-fed infants over shorter time periods.~~

~~Since EPA issued the Lifetime HA value for PFOA, t~~The locations and results ~~of~~from water samples previously collected from drinking water wells and analyzed for PFOA have been evaluated to identify areas where additional surveying and sampling activities of public and private drinking water wells may be warranted based upon current science; changed circumstances; new, site-specific information; and EPA's issuance of a ~~the new~~ Lifetime HA value for PFOA, ~~of 0.07 ppb. This evaluation has specifically focused on the geographical distribution of locations where PFOA has been detected in drinking water wells at concentrations greater than 0.07 ppb.~~

Based on this evaluation, four new geographic areas have been identified where additional surveying and sampling activities are being undertaken to determine if drinking water wells in these areas contain PFOA at concentrations greater than 0.07 ppb~~the Lifetime HA value~~. These areas, labeled as Phase III Areas A through D, are shown on Figure 1. Each of these areas has been subdivided into smaller areas ("subareas") and each subarea has been further divided into a "near" and a "far" portion with the near portion being adjacent to previously investigated geographic areas. As discussed hereinafter, a representative number of drinking water wells are being targeted for sampling based on the data available in the previously surveyed and sampled areas and the density of drinking water wells in each subarea. The methods for identifying and sampling drinking water wells in Phase III Areas A through D are described in greater detail below.

In addition, Figure 1 shows an area identified as Phase III Area E in which additional sampling will occur ~~finished water~~ at private and public water systems ~~drinking water~~

~~wells~~ that ~~has~~ve ~~have~~ been previously sampled and where sample results demonstrate that PFOA is present at concentrations above 0.05 ppb. Phase III Area E also shows an area where additional sampling will occur., and in which sampling of finished water at private and public water systems that were newly installed between 2009 and 2016 and were not previously sampled ~~newly activated or permitted water systems is warranted based on existing PFOA sampling results~~. As described below, Chemours has received information from county health departments with jurisdiction over the area identified as Phase III Area E identifying newly activated or permitted drinking water wells that have been installed since 2009 and that are being used as sources of drinking water. In addition, Chemours will contact these county health departments prospectively, on a quarterly basis, to identify newly activated or permitted water systems which are used as drinking water sources so that those wells ~~can~~ will be sampled ~~as appropriate~~.
If anything in this Scope of Work ("SOW") conflicts with any provisions in the First Amendment to Order on Consent, the First Amendment to Order on Consent controls.

1.1 Survey and Identification of Private and Public Water Systems

1.1.1 Private Water Systems and Non-Community Water Systems

Prior to beginning well surveying and sampling activities in the areas identified as Phase III Areas A through D as shown on Figure 1, attempts were made to identify the portions of these areas where public water supplies are not available and where private drinking water wells are most likely to be located. Note that for the purposes of this evaluation and scope of work ("SOW"), non-community water systems as defined by EPA and classified as non-transient non-community water systems ("NTNCWSs") and transient noncommunity water systems ("TNCWSs"), if encountered, are ~~being treated like~~considered private water systems.[1] For example, a drinking water well at a gas station or church is, for purposes of this SOW, considered ~~being treated as if it is~~ a private drinking water well even if it otherwise qualifies as an

[1] EPA's regulations implementing the Safe Drinking Water Act define a public water system as "a system for the provision to the public of water for human consumption through pipes or, after August 5, 1998, other constructed conveyances, if such system has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least 60 days out of the year." 40 C.F.R. § 141.2. EPA further divides public water systems into two categories referred to as "community water systems" and "non-community water systems." A "community water system" is defined as "a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents." 40 C.F.R. § 141.2. A "non-community water system" means a public water system that is not a community water system and that is either a transient non-community water system or a non-transient non-community water system. 40 C.F.R. § 141.2. Both of the subcategories of non-community water systems are further defined by EPA. A "transient non-community water system" is "a non-community water system that does not regularly serve at least 25 of the same persons over six months per year" while a "non-transient non-community water system" is "a public water system that is not a community water system and that regularly serves at least 25 of the same persons over 6 months per year." 40 C.F.R. § 141.2.

NTNCWS or a TNCWS. By contrast, public water systems that qualify as community water systems as defined by EPA are being evaluated as described in Section 1.1.2 of this ~~scope of work~~SOW.

The evaluation of areas served by community water systems has included obtaining water line location maps from public water systems and overlaying the locations of the water lines on aerial photographs that have a resolution high enough to observe individual house locations. In addition, information regarding whether or not houses on both sides of a street or road where a water line is present has been requested from each public water system. ~~are typically connected to the water line has been requested from each public water system.~~ Phase III Areas A through D have been divided into subareas and each subarea has been further divided into a near and far portion with the near portion being adjacent to the previously investigated geographic areas as indicated on Figure 1. For each subarea, the distribution of houses and the locations of the water lines are being evaluated and a selection of houses (including non-community public water systems if present), both geographically representative and housing density representative, are being identified for sampling within each subarea, provided that they have private drinking water wells. If clusters of houses are observed which are not served by a public water system, a representative number of houses in each cluster are being identified for sampling.

Sampling within each subarea in the near portion of the subareas in Phase III Area A began on August 1, 2016, and will be subsequently undertaken in Phase III Areas B, C, and D. Sampling ~~may~~ will be expanded either within the near portion or into the far portion of a subarea if private drinking water wells are identified which contain PFOA at concentrations greater than 0.05 ppb. If such private drinking water wells are located within a cluster of houses, all houses within the cluster with private drinking water wells ~~may~~ will be sampled. If such private drinking water wells are located where houses are less densely distributed, the nearest neighboring house(s) with private drinking water wells may be sampled. The additional sampling activities may also be expanded to areas beyond Phase III Areas A through D, if sampling data indicates PFOA is present above 0.05 ppb at the perimeter of the investigated area ~~necessary.~~

Based on the evaluation described above, teams of two Chemours' representatives are visiting the houses targeted for sampling of residential drinking water wells. The field team is seeking to ascertain whether residential wells that are used for drinking water supplies are present at targeted locations. If a drinking water well is present, Chemours' representatives present the resident or entity with a letter in a form as shown in Attachment 1, which explains Chemours' surveying and sampling program and requests participation in the program. Sampling of the drinking water well can be completed at that time, or sampling can be scheduled at a later time at the convenience of the resident or entity. The same general procedures apply with respect to non-community public water systems (i.e., NTNCWSs and TNCWSs) that are targeted for sampling.

If the resident or entity chooses not to participate in the sampling program, the field team will ~~endeavor to~~ identify another nearby drinking water well within the subarea and sampling will be offered to that resident or entity. This process will be repeated until

representative numbers of samples from private drinking water wells are obtained from the near portion of each subarea. The results from these sampling activities will augment the existing data base of sampling results.

Commented [CJ1]: Be more specific about how Respondents will determine the minimum number of locations that will be sampled within a specific area.

Water samples from private drinking water wells (including non-community public water systems) will be analyzed for PFOA. The water samples will be collected as described in the Revised Perfluorooctanoic Acid Quality Assurance Project Plan for the DuPont Corporate Remediation Group (URS, 2014) which is currently being updated. Analytical results from each water sample will be provided to EPA and the resident or entity whose well was sampled within seven days after receipt and validation of the results.

Commented [CJ2]: Reference document earlier when the discussion about collecting the samples is first described.

The following offers will be made based on the concentrations of PFOA that are detected in the water samples:

- If PFOA is detected in a drinking water well at a concentration above 0.07 ppb, the well will be qualified to receive an offer of treatment using granular activated carbon ("GAC") water treatment technology or a functionally equivalent alternative (as determined by Chemours and approved by EPA) and ~~provision of~~ a temporary alternative drinking water supply will be provided until GAC or an EPA approved equivalent treatement system is installed and operating ~~offered~~. Treatment will be provided as described in the Model Water Treatment Plan approved by EPA.
- If PFOA is detected in a drinking water well at a concentration above 0.05 ppb but less than or equal to 0.07 ppb, an offer will be made to resample the well on a quarterly basis for up to three additional quarters.
    - If the offer is accepted and if PFOA is detected during the additional quarterly sampling events at a concentration exceeding 0.07 ppb, the well will be qualified to receive an offer of treatment using GAC water treatment technology or a functionally equivalent alternative (as determined by Chemours and approved by EPA) and provision of a temporary alternative drinking water supply will be offered. Treatment will be provided as described in the Model Water Treatment Plan approved by EPA.
    - If the offer is accepted and if the concentrations of PFOA do not exceed 0.07 ppb during the additional three quarterly sampling events, no additional offers will be made.
- If PFOA is not detected in a drinking water well at a concentration exceeding 0.05 ppb based on the initial sampling results, the drinking water well will not be qualified for either treatment or additional sampling and no further offers will be made.

1.1.2 Public Water Systems - Community Water Systems

Many public water systems serving the area surrounding the Facility have been sampled for the presence of PFOA. At the present time, seven GAC treatment systems for six

public water supply systems qualifying as community water systems (excluding the water supply system for the Facility itself) have been installed and are being maintained by Respondents. In addition, treatment consisting of two GAC treatment systems ~~is~~ are being installed for ~~in conjunction with~~ the City of Vienna's public water system. The first of these two GAC systems became fully operational on August 9, 2016. The second GAC system is under construction and will be maintained by Respondents.

Three public water systems qualifying as community water systems have been identified as potentially serving customers within portions of the areas identified as Phase III Areas
A through D. These systems include the public water system operated by the Warren Community Water and Sewer Association, Inc. ("Warren Water") serving portions of Washington County, Ohio, the public water system operated by the City of Marietta Water Treatment Department serving portions of Washington County, Ohio, and the public water system operated by the Williamstown Water Department serving portions of Wood County, West Virginia. Samples of finished water and water from individual production wells from these three public water systems were collected between July 6, 2016 and July 15, 2016, as described in the Revised Perfluorooctanoic Acid Quality Assurance Project Plan for the DuPont Corporate Remediation Group (URS, 2014), which is currently being updated. The concentrations of PFOA measured in the samples collected from these three public water systems all ~~were well~~ all below ~~the new Lifetime HA value for PFOA of~~ 0.057 ppb. The highest concentration of PFOA that was measured was 0.024 ppb. In addition, PFOA was not detected in a number of the samples based on a reporting limit of 0.005 ppb. The sampling results are consistent with prior sampling results obtained in 2007 from samples of finished water and water from individual production wells from the Warren Water and the City of Marietta public water systems. Given the foregoing sampling results, no additional sampling is needed. Analytical results from each water sample were provided to EPA and the operator of the public water system that was sampled within seven days after receipt and validation of the results.

Commented [CJ3]: Pending verification from split samples showing comparable results using Test America method to Method 537.

Commented [CJ4]: Pending verification from split samples showing comparable results using Test America method to Method 537.

1.2 Newly Activated or Permitted Water Systems

The area designated as Phase III Area E shown on Figure 1 encompasses portions of Washington, Athens, and Meigs Counties in Ohio and Wood County in West Virginia. The county health departments with jurisdiction over the area designated as Phase III Area E have recently been recontacted with the help of EPA to determine whether newly activated or permitted water systems, which are used as sources of drinking water, have been placed into service since the beginning of 2009 in order to verify that information obtained from previous requests, which frequently went unanswered, is complete. Based on an evaluation of the information that has been provided, Chemours has identified approximately 35 newly activated or permitted water systems that may be located within Phase III Area E for which sampling will be offered if the wells are being used to provide drinking water supplies. These water systems were not previously identified by the various county health departments. In addition, based on information previously provided by the various county health departments with jurisdiction over the

area designated as Phase III Area E, there are approximately five newly activated or permitted water systems that have not yet been sampled for various reasons. Chemours will offer to sample these five wells along with the approximately 35 wells described above if the wells are being used to provide drinking water supplies. Chemours' representatives have started the process of contacting the residents by mailing them letters consistent ~~with~~with the form of the letter included in Attachment 2, which describes the sampling program and requesting permission to sample the drinking water wells that are qualified for sampling. Mailing of these letters began on August 3, 2016, and some of the recipients of the letters have already contacted Chemours' representatives.

Following the evaluation of newly activated or permitted water systems from 2009 to the present, Chemours will begin to make written requests on a quarterly basis to the four county health departments described above (i.e., the health departments for Washington, Athens, Meigs, and Wood Counties) to provide information regarding any newly activated or permitted water systems that have been placed into service since receipt of the prior written request from Chemours. Based on the information provided by the county health departments, if such newly activated or permitted water systems are located within Phase III Area E as shown on Figure 1, Chemours' representatives will start the process of contacting the residents and requesting permission to sample the drinking water wells that are qualified. Newly activated or permitted water systems located within Phase III Areas A through D (or portions thereof) may also be included in these quarterly requests if the results from the supplemental surveying and sampling activities, described above in Section 1.1.1, indicate that these areas warrant being included as part of the health department check process, and if the water systems are qualified for sampling.

Water samples from drinking water wells will be analyzed for PFOA. As indicated above, the water samples will be collected as described in the Revised Perfluorooctanoic Acid Quality Assurance Project Plan for the DuPont Corporate Remediation Group (URS, 2014), which is currently being updated. Analytical results from each water sample will be provided to EPA and the resident or entity whose well was sampled within seven days after receipt and validation of the results. Treatment will be provided as described in the Model Water Treatment Plan approved by EPA. Offers of treatment or additional sampling will be made as described above in Section 1.1.1 based on the concentrations of PFOA that are measured in the water samples.

Chemours will continue to request that the four county health departments identify any newly activated or permitted water systems in the geographical areas falling within Phase III Area E as shown on Figure 1 and relevant portions of Phase III Areas A through D until Chemours demonstrates to the satisfaction of EPA that underground sources of drinking water in those geographical areas (or a subset of those areas) contain PFOA at concentrations of less than or equal to 0.07 ppb for four consecutive quarters.

Figures

Figure 1

Proposed New Geographic Areas and Surveying and Sampling Locations

Quarterly Health Department Checks (Phase III Area E)
(will re-evaluate all newly installed wells since 2009
in these geographic areas, and then new insta

Attachment 1

Well Use Surveying and Sampling Program - Form of Letter for Residents

Date

Phase III - Well Use Survey and Sampling Program

In 2009, E.I. du Pont de Nemours and Company (DuPont) and the United States Environmental Protection Agency (EPA) entered into a Consent Order regarding the presence of C-8 (also referred to as perfluorooctanoic acid or PFOA) in certain drinking water supplies. As contemplated in the Consent Order, DuPont conducted several phases of surveying and sampling of public and private drinking water wells for PFOA in the vicinity of the Washington Works facility located in Wood County near Parkersburg, West Virginia. In addition, DuPont offered granular activated carbon (GAC) water treatment technology or a functionally equivalent alternative (as determined by DuPont and approved by EPA) to residents with private water systems containing PFOA at concentrations equal to or greater than 0.40 micrograms per liter (µg/L) or parts per billion (ppb). This level of PFOA corresponds to the Provisional Health Advisory for PFOA established by EPA in 2009.

On May 19, 2016, EPA issued a Lifetime Health Advisory value for PFOA of 0.07 µg/L based on information contained in a document titled *Health Effects Support Document for Perfluorooctanoic Acid (PFOA)* (EPA, 2016) (https://www.epa.gov/ground-water-and-drinkingwater/drinking-water-health-advisories-pfoa-and-pfos). Health advisories apply to substances that are not subject to National Primary Drinking Water Regulations under the Safe Drinking Water Act and serve as informal technical guidance to assist federal, state, and local officials, and managers of public or community water systems by providing information on the health effects of and methods to sample and treat the substances in drinking water for which health advisories are established. In this case, the Lifetime Health Advisory value for PFOA issued by EPA is intended to be protective of both individuals consuming drinking water containing PFOA over a 70-year period (i.e., lifetime exposure) and pregnant women and breast and bottle-fed infants over shorter time periods.

The Chemours Company (Chemours), which now owns and operates the majority of the Washington Works Facility, is beginning an additional phase of surveying and sampling activities based upon current science and changed circumstances, as well as new, site-specific information and the Lifetime Health Advisory. Chemours will~~to~~ gather information regarding the potential presence of PFOA in drinking water supplies in new geographic areas for which no PFOA sampling results exist. We are asking residents within these specific geographic areas to participate in a well use survey and sampling program. If you have a drinking water well and are interested in having it sampled and analyzed for PFOA at no cost to you, please contact Ms. Ali Pearce (304-588-1524), a Chemours' representative~~s, Ms. Ali Pearce (304-588-1524)~~. The sampling will be scheduled at your convenience and requires a technician to come to your house for less than 10 minutes to collect a small container of water. If your well is sampled, you will receive the results for your well ~~within~~ in approximately 4-6 weeks after sampling is completed.

Drinking water wells which contain PFOA at concentrations exceeding ~~the new Lifetime Health Advisory value of~~ 0.07 µg/L will be eligible for ~~an offer of treatment using~~ GAC water treatment technology or a functionally equivalent alternative (as determined by Chemours and approved by EPA.) If the concentration of PFOA initially measured in the drinking water well is between

0.05 µg/L and 0.07 µg/L, Chemours will offer to monitor the concentration of PFOA in the drinking water well on a quarterly basis (once every three months) for up to three additional quarterly monitoring events. If the concentration of PFOA that is detected in such a drinking water well during any of those monitoring events exceeds 0.07 µg/L, that well will be eligible for GAC treatment. If PFOA is not detected in the drinking water well at a concentration exceeding 0.05 µg/L based on the initial sampling results, the drinking water well will not be qualified for either treatment or additional sampling and no further offers will be made.

Should you have any questions regarding the well use surveying and sampling program, please contact Ms. Heather Shoven (EPA Region 5) at 312-886-0153 if you live in Ohio or Mr. Roger Reinhart (EPA Region 3) at 215-814-5462 if you live in West Virginia. We thank you for your help and cooperation with this well use surveying and sampling program.

Sincerely,
The Chemours Company

Andrew S. Hartten
Principal Remediation Project Manager
Corporate Remediation Group

Attachment 2

Sampling of Newly Activated or Permitted Water Systems - Form of Letter for Residents

Date

Name
or Current Resident
Address
City, State, Zip Code

Sampling of Newly Activated or Permitted Water Systems

In 2009, E. I. du Pont de Nemours and Company (DuPont) and the United States Environmental Protection Agency (EPA) entered into a Consent Order regarding the presence of perfluorooctanoic acid (PFOA) in certain drinking water supplies. As contemplated in the Consent Order, DuPont offered sampling of newly installed drinking water wells in the vicinity of the Washington Works Facility located in Wood County near Parkersburg, West Virginia. If such sampling showed PFOA to be present in water supplies at measured concentrations equal to or greater than 0.40 micrograms per liter (µg/L) or parts per billion (ppb), DuPont also offered installation of granular activated carbon (GAC) water treatment technology or a functionally equivalent alternative (as determined by DuPont and approved by EPA) for such wells. This level of PFOA corresponds to the Provisional Health Advisory for PFOA established by EPA in 2009.

On May 19, 2016, the EPA issued a Lifetime Health Advisory value for PFOA of 0.07 µg/L based on information in a document entitled *Health Effects Support Document for Perfluorooctanoic Acid (PFOA)* (EPA, 2016) (https://www.epa.gov/ground-water-and-drinkingwater/drinking-water-health-advisories-pfoa-and-pfos). Health advisories apply to substances that are not subject to National Primary Drinking Water Regulations under the Safe Drinking Water Act and serve as informal technical guidance to assist federal, state, and local officials, and managers of public or community water systems by providing information on the health effects of and methods to sample and treat the substances in drinking water for which health advisories are established. In this case, the Lifetime Health Advisory value for PFOA issued by EPA is intended to be protective of both individuals consuming drinking water containing PFOA over a 70-year period (i.e., lifetime exposure) and pregnant women and breast and bottle-fed infants over shorter time periods.

~~Based on this new Lifetime Health Advisory value for PFOA,~~ The Chemours Company (Chemours), which now owns and operates the majority of the Washington Works facility, is offering sampling of newly installed drinking water wells based upon current science and changed circumstances, as well as new, site-specific information and the Lifetime Health Advisory. Chemours will sample and installation ~~of~~ GAC water treatment technology, or a functionally equivalent alternative (as determined by Chemours and approved by EPA) to residents with private water systems containing PFOA at measured concentrations greater than 0.07 µg/L. If PFOA is detected in a drinking water well at a concentration above 0.05 µg/L but less than or equal to 0.07 µg/L, an offer will be made to resample the well on a quarterly basis for up to three additional quarters. If the concentration of PFOA that is detected in such a drinking water well during any of those monitoring events exceeds 0.07 µg/L, that well will be

eligible for treatment. If PFOA is not detected in a drinking water well at a concentration exceeding 0.05 µg/L based on the initial sampling results, the drinking water well will not be qualified for either treatment or additional sampling and no further offers will be made.

Your well was identified by one of four County Health Departments (including the Health Departments for Washington, Athens, and Meigs Counties in Ohio, and the Health Department for Wood County in West Virginia) as having been installed between 2009 and 2016 and as potentially ~~being~~ qualif~~ying~~ied for sampling. If your well has been installed, is being used for drinking water purposes, and is located within the geographic sampling area, Chemours is offering to sample the well for PFOA at no cost to you. The sampling will be scheduled at your convenience and requires a technician to come to your house for less than 10 minutes to collect a small container of water. If your well is sampled, you will receive the results for your well within ~~approximately~~ 4-6 weeks after sampling is completed.

If you are interested in accepting this offer, please contact Ms. Ali Pearce at 304-588-1524, a Chemours representative, ~~Ms. Ali Pearce at 304-588-1524~~ to determine qualification and schedule sampling, ~~if offered~~. If you choose to decline this offer, please sign below and return this signed letter in the self-addressed, stamped envelope.

Should you have any questions regarding the well use surveying and sampling program, please contact Ms. Heather Shoven (EPA Region 5) at 312-886-0153 if you live in Ohio or Mr. Roger Reinhart (EPA Region 3) at 215-814-5462 if you live in West Virginia.

Sincerely,

Andrew S. Hartten
Principal Remediation Project Manager
Chemours Corporate Remediation Group

I decline Chemours' offer of sampling of my drinking water well for PFOA.

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(Owner's Signature, Address and Date of Decline)